skeletons would thus become entombed in the estuary mud which was then tranquilly accumulating. Nothing less than a long succession of such accidents can account for the vast number of remains now found buried. As their exposure has invariably been due to the intersection of the plain by the banks of some stream, it is not making an extravagant assertion, to say, that any line whatever drawn across the Pampas would probably cross the skeleton of some extinct animal.

At Bajada, a passage, as I have stated, may be traced upwards from the beds containing marine shells, to the estuary mud with the bones of land animals. In another locality a bed of the same mineralogical nature with the Pampas deposit, underlies clay containing large oysters and other shells, apparently the same with those at Bajada. We may, therefore, conclude that at the period when the Arca, Venus, and Oyster were living, the physical condition of the surrounding country was nearly the same, as at the time when the remains of the mammalia were embedded; and therefore that these shells and the extinct quadrupeds probably either co-existed, or that the interval between their respective existences was, in a geological point of view, extremely short. In this part of South America there is reason to believe that the movements of the land have been so regular, that the period of its elevation may be taken as an element in considering the age of any deposit. The circumstance, therefore, that the beds immediately bordering the Plata, contain very nearly the same species of molluscs, with those now existing in the neighbouring sea, harmonizes perfectly with the more ancient (though really modern) tertiary character of the fossils underlying the Pampas deposit at Bajada, situated at a greater height, and at a considerable distance in the interior. I feel little doubt that the final extinction of the several large quadrupeds of La Plata did not take place, until the time when the sea was peopled with all, or nearly all, its present inhabitants.

Bahia Blanca, situated in latitude 39°, and about 250 miles south of the Plata, constitutes the second district, in which I found the remains of quadrupeds. This large bay is nearly surrounded by very low land, on which successive lines of sand dunes mark in many parts the retreat of the water. At some distance inland a formation of highly indurated marl, passing into limestone, forms an escarpment. Beyond this, rocks of the same character extend over a wide and

desolate plain, which rises towards the flanks of the distant mountain of the Sierra de la Ventana, composed of quartz. On the low shores of this bay, only two places occur, where any section of the strata can be seen; and at both of these I found fossil remains.

At Monte Hermoso, a line of cliff of about 120 feet in height, consists in the upper part of a stratum of soft sandstone with quartz pebbles; and in the lower of a red argillaceous earth, containing concretions of pale indurated marl. This lower bed has the same mineralogical character with the Pampas deposit; and possibly may be connected with it. The embedded bones were blackened, and had undergone more chemical change than in any other locality, which I examined. With the exception of a few large scattered bones, the remains seemed to belong chiefly to very small quadrupeds.

In another part of the bay, called Punta Alta, about eighteen miles from Monte Hermoso, a very small extent of cliff, about twenty feet high, is exposed. The lower bed seen at ebb tide, extends over a considerable area; it consists of a mass of quartz shingle, irregularly stratified, and divided by curved layers of indurated clay. The pebbles are cemented together by calcareous matter, which results, perhaps, from the partial decomposition of numerous embedded shells. In this gravel the remains of several gigantic animals were extraordinarily numerous. The cliff, in the part above high-water mark, is chiefly composed of a reddish indurated argillaceous earth; which either passes into, or is replaced by, the same kind of gravel, as that on which the whole rests. The earthy substance is coarser than that at Monte Hermoso, and does not contain calcareous concretions. I found in it a very few fragments of shells, and part of the remains of one quadruped.

From the bones in one of the skeletons, and likewise from those in part of another, being embedded in their proper relative positions, the carcasses of the animals, when they perished, were probably drifted to this spot in an entire state. The gravel, from its stratification and general appearance, exactly resembles that which is every day accumulating in banks, where either tides or currents meet; and the embedded shells are of littoral species. But from the skeleton, in one instance, being in a position nearly undisturbed, and from the abundance of serpulæ and encrusting corallines adhering to some of the bones, the water, at